

**Translation**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>0000054630</b>	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. <b>PCT/EP2004/006035</b>	International filing date (day/month/year) <b>04.06.2004</b>	Priority date (day/month/year) <b>06.06.2003</b>
International Patent Classification (IPC) or national classification and IPC		
Applicant <b>BASF AKTIENGESELLSCHAFT</b>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☒ (sent to the applicant and to the International Bureau) a total of 3 sheets, as follows:

☐ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☒ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒ Box No. I Basis of the report

☐ Box No. II Priority

☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

☐ Box No. IV Lack of unity of invention

☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

☐ Box No. VI Certain documents cited

☐ Box No. VII Certain defects in the international application

☐ Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/006035

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
  - ☐ publication of the international application (Rule 12.4)
  - ☐ international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

- ☐ the international application as originally filed/furnished

- ☒ the description:

pages 1-14 as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

- ☒ the claims:

nos. 1-25 as originally filed/furnished

nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19

nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

- ☐ the drawings:

sheets \_\_\_\_\_ as originally filed/furnished

sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages \_\_\_\_\_

☐ the claims, nos. \_\_\_\_\_

☐ the drawings, sheets/figs \_\_\_\_\_

☐ the sequence listing (*specify*): \_\_\_\_\_

☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4. ☒ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages \_\_\_\_\_

☒ the claims, nos. 1-21

☐ the drawings, sheets/figs \_\_\_\_\_

☐ the sequence listing (*specify*): \_\_\_\_\_

☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	18, 19	YES
	Claims	1-17, 20-25	NO
Inventive step (IS)	Claims		YES
	Claims	1-25	NO
Industrial applicability (IA)	Claims	1-25	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

1. This report makes reference to the following documents:

D1: EP-A-1 192 993 (TOSOH CORP), 3 April 2002 (2002-04-03)

D2: EP-A-0 130 407 (NITTO CHEMICAL INDUSTRY CO LTD), 9 January 1985 (1985-01-09)

D3: WO 91/04943 A (EXXON RESEARCH ENGINEERING CO), 18 April 1991 (1991-04-18)

D4: EP-A-1 215 211 (BASF AG), 19 June 2002 (2002-06-19)

D5: EP-A-0 842 936 (AIR PROD & CHEM), 20 May 1998 (1998-05-20)

2. INDEPENDENT CLAIM 1

2.1 The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claim 1 is not novel (PCT Article 33(2)). Document D1 discloses (example 1) an H-ZSM-5-containing extrudate treated with a gas that contains 92% steam at a temperature of 355°C for a period of seven days. The absolute pressure

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Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

can be an atmospheric pressure, an increased or a reduced pressure ([0042]). This (implicitly) increases cutting hardness.

2.2 The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claim 1 is not novel (PCT Article 33(2)). Document D2 discloses (see the passages cited in the search report) zeolite catalysts which are treated with a steam-containing gas at a temperature from 250 to 700°C and an absolute pressure of 1-70 Atm over a period of 1-400 hours. In example 1, the zeolite catalyst is a mordenite extrudate. This also (implicitly) increases cutting hardness.

2.3 The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claim 1 is not novel (PCT Article 33(2)). Document D3 discloses (claims 1 and 5) a process for producing zeolite aggregates by forming a mouldable paste, then moulding the paste into an aggregate (moulding), hardening the aggregate, then hydrothermally calcining the hardened aggregate for a sufficient period of time to make the aggregate stronger and harder.

3. INDEPENDENT CLAIM 15

3.1 The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claim 15 is not novel (PCT

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Article 33(2)). The extrudate described in D1 (see also above) is used in a process for producing TEDA starting from N(2-aminoethyl)piperazine and water (example 1). Other preferred starting materials are ethylene diamines or piperazines.

4. INDEPENDENT CLAIM 22

4.1 The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claim 22 is not novel (PCT Article 33(2)) (see point 3.1 above).

5. INDEPENDENT CLAIM 23

5.1 The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claim 23 is not novel (PCT Article 33(2)) (see point 3.1 above).

5.2 The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claim 23 is not novel (PCT Article 33(2)). Document D2 discloses methanol amination in the presence of a catalyst, cutting hardness being previously increased by a process as per claim 1 (see point 2.2 above).

5.3 The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claim 23 is not novel (PCT Article 33(2)). Document D3 discloses (claims 1

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and 5) a process for producing zeolite aggregates by forming a mouldable paste, moulding the paste into an aggregate (moulding), hardening the aggregate and hydrothermally calcining the hardened aggregate for a sufficient period of time to make the aggregate stronger and harder.

These aggregates are used in chemical synthesis processes.

6. INDEPENDENT CLAIM 25

6.1 The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claim 25 is not novel (PCT Article 33(2)) (see points 5.1-5.3 above).

7. DEPENDENT CLAIMS 2-14, 16-21, 24

Claims 2-14, 16-21 and 24 do not contain any features (even with respect to D4 and D5) which, in combination with the features of any claim to which they refer, meet the PCT novelty or inventive step requirements.

## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

**BOX I**

The amendments submitted with the letter of 5 April 2005 introduce substantive matter which goes beyond the original disclosure in the international application as filed, thereby contravening PCT Article 34(2)(b). This concerns the following amendments:

The original claim 1 has been amended by inclusion of specific selections of features from the original dependent claims 9, 10 and 13 (i.e. silicon and/or zirconium oxide were selected from a plurality of oxides and combined with a particular steam content and a calcination step). This specific combination of selected features cannot be unambiguously found in the original disclosure.

None of the examples appears to contain all these features in an unambiguous manner.

**Pursuant to PCT Rule 70.2(c), this report has been established without taking into account these features (i.e. it is based on the original claims).**